play response data. Analysis by question, category and demographic descriptor was performed. **RESULTS:** 90% of learners were able to apply the content of the training within 4 weeks. Learners reported a notable increase in improving animal health and production as a result of the training. Most learners (>90%) view the program as a worthwhile investment in their career. Significantly less managers feel the same way (<45%). A ROI calculation result for total percent job improvement due to training is 1.7 times the top 25% benchmark. Surprisingly, those with greater than 10 years tenure find the program to be just as worthwhile or more compared to the other tenure groups and the group with the largest number of employees also saw the greatest Job Impact from the training. **CONCLUSIONS:** The training provides much needed resources for the industry since most learners found it a worthwhile investment and the ROI calculation is high. This analysis allows for data driven decisions to be made for program adjustment and learner selection.

PIH44

TRENDS IN PATIENT CENTERED RESEARCH IN THE PUBLISHED LITERATURE

Covington D[1], Veley KM[2], Williams H[3]

[1]*PPD, Wilmington, NC, USA,* [2]*PPD, Morrisville, NC, USA,* [3]*PMG Research Inc., Wilmington, NC, USA*

OBJECTIVES: In a previous study we found a steep increase in the use of the term "patient-centered" in the published literature from <10 articles in the 1960s to >3000 in the 2010s. We also noted an increase in the proportion of articles in each decade reporting original research (17 vs 90%). The objective of this study was to further examine the subset of articles reporting original research. **METHODS:** We searched EMBASE for articles written in English between 1950-2013 with 'patient-centered' in the title or abstract. We selected a random sample of 10 articles within each decade and captured data from the title and abstract on the focus of the article (healthcare, research, or teaching). We selected those focused on research and extracted additional data on the study design, data collection methods, number of cases, comparator group, and statistics used. We examined trends in these variables over time using tabular and graphical methods. **RESULTS:** Our search identified 5051 publications, of which 2222 reported original research, from 1966-2013. Articles in earlier decades tended to report qualitative research (>55%), whereas articles published since 2010 used more sophisticated study designs (>75%). The majority of studies in all decades employed descriptive statistics; however multivariate methods were used in 25% of studies in the 2010s. The use of a comparator group (16 vs 50%) and the average number of subjects (38 vs 687) also increased steadily over time. **CONCLUSIONS:** In addition to the increase in original research publications with "patient-centered" in the title or abstract over the last 50 years, we observed an increase in scientific and methodological rigor among these original research articles. These findings are consistent with the rise in personalized-medicine in the healthcare industry today, as well as the upsurge in the use of patient-reported outcome data that characterizes clinical research today.

PIH45

CAN A WEB-BASED TOOL TO FACILITATE COMMUNICATION BETWEEN PATIENT AND HEALTHCARE PROVIDERS IMPROVE PATIENT-REPORTED OUTCOMES?

Cleverley D

Personal Healthcare Information, Pittstown, NJ, USA

OBJECTIVES: Patients with barriers such as normal anxiety around illness, low assertiveness, or cognitive issues may have trouble communicating with their healthcare providers (HCP). HCPs are under increasing pressure to see more patients daily. Can a web-based training and worksheet help patients have improved outcomes, even in the face of these challenges? **METHODS:** US and European patients were trained to produce an electronic, printable worksheet that contained the following: a detailed description of their primary complaint, including location, duration, and intensity according to Likert scale, correlation to activity, quality, and history. The worksheet also included a functional impact statement around daily activities of living and social activities, a therapy preferences statements and a statement of symptom management goals. **RESULTS:** Of 25 patients, 14 responded to an outcomes survey: 10/14 (71%) of the respondents were female, with a range of 30-72 years of age 6/14 (42.9%) consulted 5 or more HCPs and 9/14 (64.3%) had 5 or more healthcare visits for their healthcare issue prior to completing the worksheet 9/14 (64.3%) indicated they had some miscommunication with their HCP regarding medication A majority of patients had received costly blood tests (81.8%), X-rays (72.7%), and MRI/CATS scans (63.6%) for their healthcare issue Most patients (78.6%) used the worksheet to have a discussion around a new treatment option they hadn't previously discussed, and almost half 6/14 (42.9%) were able to get a diagnosis for a healthcare issue not previously diagnosed using the worksheet; Many [9/14 (64.3%)] said the worksheet helped reduce office-visit related anxiety and helped them discuss symptom management [8/14 (57.2%)]. **CONCLUSIONS:** This simple web-based tool was useful in facilitating communication between patients and their HCPs, which led to diagnosis, receiving new treatments, and better symptom management, even in patients with long-standing healthcare issues, multiple visits, extensive testing, and multiple healthcare providers.

PIH46

PATIENT REPORTED OUTCOMES: ARE THEY RELEVANT TO U.S. PAYERS?

Bayliss M[1], Hughes TE[2]

[1]*Optum, Lincoln, RI, USA,* [2]*Optum, Scottsdale, RI, USA*

OBJECTIVES: Identify the current and future relevance of Patient Reported Outcomes (PROs) among U.S. payers making patient access decisions for pharmaceuticals **METHODS:** Double blind, semi-structured telephone interviews with 12 U.S. payers, including: National and regional commercial payers; Accountable Care Organizations; Pharmacy Benefit Managers; Self-insured employers; Actuaries; Veterans Affairs; and Department of Defense. Interviews included open-ended questioning and structured rating scales where 10=highest and 1=lowest possible score per concept. **RESULTS:** Payers perceive PROs as the, "Consequences of the disease and drug as assessed by the patient…" Average rating scale responses were: How relevant are PROs? today? = 3.7 in 5 years? = 6.4 Would you like to see more PRO evidence? today? = 6.1 in 5 years? = 6.6 Should pharmaceutical companies invest more in PROs? today? = 5.6 in 5 years? = 6.3 The sum of the 6 scales (min= 6, max = 60) ranged from 12 to 58, highlighting diversity across payers. PRO relevance was associated with the duration of enrollment and thus total amount of risk. DoD and ACOs reported the highest relevance, National Commercial Health plans the lowest. Education was consistently identified as a need to aid interpretation of PRO data to support patient access decisions. **CONCLUSIONS:** Payers' reliance on PRO data will increase in the next five years, especially in symptomatic conditions without objective measures of success. PRO evidence is valued as a unique predictor of clinical and economic outcomes and as a key element of performance and quality ratings. Respondents showed interest in pharmaceutical companies' increasing use of PROs in clinical trials, creation of real world evidence and supporting PRO education.

PIH47

FOR TWO COMPANIES THE FDA PRO GUIDANCE LEADS TO SIMILAR BUT DIFFERENT MEASURES: A CASE STUDY IN PSORIASIS

Mordin M[1], Brown TM[2], McLeod L[2], DeMuro C[2], Gnanasakthy A[2]

[1]*RTI Health Solutions, Ann Arbor, MI, USA,* [2]*RTI Health Solutions, Research Triangle Park, NC, USA*

OBJECTIVES: The objective of this research is to evaluate whether the 2009 FDA PRO Guidance leads to development of similar measures when followed by different researchers in the same disease. Psoriasis was selected as a case study, because two companies recently published patient-reported outcome measures to assess the severity of psoriasis-related symptoms: the Psoriasis Symptom Inventory (PSI) and the Psoriasis Symptom Diary (PSD). **METHODS:** Full-length publications related to the development of the PSI and PSD were reviewed. The following information regarding the development process and key aspects pertinent to the PRO Guidance were extracted and compared: patient population, development steps (literature review, involvement of patients during item development), psychometric properties, content of final measure, recall period, response options, and scoring. The authors conducted a qualitative evaluation of the differences between the measures. **RESULTS:** Five publications regarding the development of the measures were identified (PSI, n = 3; PSD, n = 2). Both measures focus on symptoms of moderate to severe psoriasis. Both measures were based on literature reviews, patient input, and expert opinion and had similar psychometric properties. Both measures have a 24-hour recall period. However, the measures consist of different numbers of disease-specific symptoms (PSI = 8; PSD = 6). The PSI consists of 8 items, all of which measure symptom severity. The PSD consists of 16 items (bother of symptoms = 8, severity of symptoms = 6, skin color = 1, hiding skin = 1). Additionally, the measures assess symptoms differently. The PSI uses a 5-point Likert scale, while the PSD uses an 11-point numeric rating scale; both measures equate higher scores with greater severity. **CONCLUSIONS:** This example demonstrates that when different experts develop patient-reported outcome measures to assess identical concepts and to align with the FDA PRO Guidance, the result is similar but not identical.

PIH48

SWITCHING IN PART D PRESCRIPTION PLAN: PLAN SWITCHING VERSUS BRAND NAME DRUG SWITCHING

Basu R

Baylor Scott & White Health, Temple, TX, USA

OBJECTIVES: There is a dearth of evidence on factors influencing prescription plan switching versus switching from brand name drug to generic one. However, either of this switching decision could significantly impact health and wellbeing of Medicare beneficiaries. The objective of the present study was to better understand the relative impacts of individual versus prescription plan level characteristics on both of these switching decisions. **METHODS:** Medicare beneficiaries participated in the 2007 HRS prescription drug survey and 2009 HRS well-being survey and enrolled in Medicare part D (stand-alone), HMO, fee-for service or Advantage plans. The study sample includes 1298 individuals responded both years surveys. . Random intercept multinomial logistic regression model was estimated. **RESULTS:** Only 5% of sample members switched into different prescription plans in both 2007 and 2009, while about 24% individuals switched from brand name drugs to generic product to save prescription drug costs. An outcome variable of interest includes 4 categories: switched into different part D plan, switch from brand to generic drug, thought about switching but did not actually switch and didn't do anything. The main covariates of interest include individual and plan level characteristics. Compared to "didn't do anything" Individuals were more likely to switch to different prescription plan (13%) or switched into generic drug from brand name (25%) if they were using higher number of prescription medications ($p<0.04$). Individuals having plans with good customer service was 54% less likely to switch into different part-D plan. Compared to "didn't do anything" individuals were 123% more likely to stay on the same plan being not satisfied with the current plan if they experience "inertia" in the plan choice decision. **CONCLUSIONS:** Unobserved plan level characteristics matter in part-D plan switching or drug switching decisions. Consumer inertia and plan's customer service quality appear to be important factors influencing these switching decisions.

PIH49

A CONCEPTUAL FRAMEWORK FOR TRANSLATING PATIENT-REPORTED OUTCOMES FOR IMPLEMENTATION IN CLINICAL PRACTICE AND QUALITY IMPROVEMENT EFFORTS

Jeswani N, Gaur P, Ganesan N, Mitchell K

Avalere Health, Washington, DC, USA

OBJECTIVES: As healthcare becomes more patient-centered, patient-reported outcomes (PROs) are assuming a growing role in different aspects of care. Avalere sought to define a conceptual framework on the criteria for defining, implementing, and translating PROs into valid, reliable measures of performance. **METHODS:** Conducted a structured literature review to identify influencers in the translation of PROs, issues that impact translation, and relationships between key variables. **RESULTS:** Various